

REMARKS

Claims 1-34 were pending in the application at the time the present Office Action was mailed. Claims 1 and 14 have been cancelled without commenting on or conceding the merits of the rejections of these claims, and without prejudice to pursuing these claims in a continuing application. Claims 13 and 21 have been rewritten in independent form to include all the features of the corresponding base claims and any intervening claims. Accordingly, any subsequent rejection of claims 13 and 21 based on new grounds cannot be made final. Independent claims 23 and 29 have been amended to clarify certain aspects of the claims, and claims 2-12, 15-20 and 22 have been amended to change the dependencies. Accordingly, claims 2-13 and 15-34 remain pending in the present application.

Claims 1-34 were rejected in the Office Action. More specifically, the status of the claims in light of the present Office Action is as follows:

(A) Claims 1-34 were rejected under 35 U.S.C. Section 102(b) as being anticipated by NASA CR-114658 by Kulfan et al. ("Kulfan"); and

(B) Claims 1-34 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over AIAA Paper No. 72-756 by Williams ("Williams") in view of U.S. Patent No. 4,506,850 to McConnell ("McConnell").

The undersigned attorney wishes to thank the Examiner for engaging in a telephone interview on April 28, 2004, to discuss the present Office Action. The following remarks summarize and expand on the results of the interview and reflect the agreements reached. As discussed in greater detail below, one agreement reached during the course of the interview was that there is no motivation in the prior art to combine the engine installation of McConnell with the aircraft illustrated in Figure 17 of Williams to produce the near-sonic aircraft configuration of the pending claims.

A. Response to the Section 102 Rejection of Claims 1-34

Claims 1-34 were rejected under 35 U.S.C. Section 102(b) as being anticipated by Kulfan. Claims 1 and 14 have been cancelled without commenting on or conceding

the merits of the rejections of these claims. Accordingly, the rejection of claims 1 and 14 is now moot.

1. Independent Claims 13, 21, 23 and 29 Are Directed to, *inter alia*, Near-Sonic Aircraft Configured to Operate at Cruise Mach Numbers of about .98 or Less

Independent claims 13, 21, 23 and 29 are directed to aircraft configured to operate at cruise Mach numbers of about .98 or less. Claim 13, for example, is directed to an aircraft that includes, *inter alia*, a fuselage, a wing fixedly attached to the fuselage, and a propulsion system fixedly attached to the wing. The fuselage, wing and propulsion system are configured to operate at a cruise Mach number of about .98 or less.

In contrast to the aircraft of claim 13, the aircraft disclosed by Kulfan is a high-speed transonic aircraft configured to operate at a cruise Mach number of 1.2. (See, for example, the title of Kulfan "FINAL REPORT – HIGH-TRANSONIC SPEED TRANSPORT AIRCRAFT STUDY;" and the abstract of Kulfan "An initial design study ... has been completed...the 'boomless' supersonic design objective[] of...Mach = 1.2 [was] achieved...") Therefore, as the Examiner acknowledged during the April 28 telephone interview, Kulfan cannot support a proper Section 102 rejection of independent claims 13, 21, 23 and 29 for at least the reason that this reference fails to teach or suggest a cruise Mach number of about .98 or less. Accordingly, the rejection of claims 13, 21, 23 and 29 should be withdrawn.

Claims 2-12 depend from base claim 13. Claims 15-20 and 22 depend from base claim 21. Claims 24-28 depend from base claim 23. Claims 30-34 depend from base claim 29. Accordingly, Kulfan cannot support a proper Section 102 rejection of dependent claims 2-12, 15-20, 22, 24-28, and 30-34 for at least the reason that this reference cannot support a Section 102 rejection of the corresponding base claims, and for the additional features of these dependent claims. Therefore, the Section 102 rejection of dependent claims 2-12, 15-20, 22, 24-28, and 30-34 should be withdrawn.

As discussed with the Examiner on April 28, the rejection of dependent claims 15, 19 and 26 should be withdrawn for additional reasons. Claim 15 is directed to an

aircraft that includes, *inter alia*, a fuselage having a second fuselage portion and a third fuselage portion positioned aft of the second fuselage portion. The second fuselage portion has a second maximum dimension and the third fuselage portion has a third maximum dimension that is greater than the second maximum dimension. The second and third maximum dimensions are parallel to a yaw axis of the aircraft. Figure 4 of Kulfan clearly illustrates that his aircraft lacks a third fuselage portion having a maximum dimension parallel to the yaw axis that is greater than the corresponding maximum dimension of a second fuselage portion. Accordingly, Kulfan cannot support a Section 102 rejection of claim 15 for this additional reason, and the rejection should be withdrawn.

Dependent claims 19 and 26 recite aircraft that include a first passenger deck and a second passenger deck positioned below the first passenger deck. Nowhere does Kulfan teach or suggest such first and second passenger decks. Accordingly, Kulfan cannot support a Section 102 rejection of dependent claims 19 and 26 for this additional reason, and the rejection should be withdrawn.

B. Response to the Section 103 Rejection of Claims 1-34

Claims 1-34 were rejected under 35 U.S.C. Section 103(a) as being unpatentable over Williams in view of McConnell. As mentioned above, claims 1 and 14 have been cancelled without commenting on or conceding the merits of the rejection of these claims. Accordingly, the rejections of claims 1 and 14 are now moot.

1. Independent Claims 13, 21, 23 and 29 Are Directed to Aircraft That Include, *inter alia*, a Propulsion System Having an Air Inlet Positioned aft of a Leading Edge Region of a Wing

Independent claims 13, 21, 23 and 29 are directed to near-sonic aircraft that include, *inter alia*, a propulsion system having an air inlet positioned aft of a leading edge region of a wing. Claim 13, for example, is directed to an aircraft having a fuselage, a wing fixably attached to the fuselage, and a propulsion system fixably attached to the wing. The propulsion system includes an air inlet positioned aft of a leading edge region of the wing.

The Office Action concedes that Williams fails to teach or suggest a propulsion system fixably attached to a wing and having an air inlet positioned aft of a leading edge region of the wing. To fill the gap in Williams' disclosure, the Office Action points to McConnell stating "It would have been obvious . . . to substitute the engine mounting of McConnell for that of Williams since it is more drag efficient." As the Examiner acknowledged during the April 28 interview, however, it would not have been obvious to make the suggested substitution for at least two reasons.

First, McConnell teaches the use of his engine mounting configuration with a subsonic aircraft, not with an area-ruled, high-speed aircraft such as that taught by Williams. Second, the engine mounting of McConnell includes engine nacelles mounted to the trailing edge region of a wing. Williams, however, expressly teaches away from adding any additional structures to this region of the wing because it compromises the adjacent fuselage cross section. For example, at the top of column 2 on page 1, Williams points out that above the Mach 0.92 speed range considered in his study, the use of area ruling is "required." In the last paragraph in column 2 on page 3, Williams further explains that a rearward extension of the inboard wing trailing edge was required to accommodate the landing gear. Under the area rule, the area added by this extension required a corresponding reduction in fuselage cross section, resulting in a fuselage upper lobe contour that Williams describes as "only sufficient." Accordingly, adding engine nacelles to this region of the wing, as taught by McConnell, would exacerbate the problem by requiring further reduction in fuselage cross section to the point of being insufficient. Therefore, Williams and McConnell cannot support a Section 103 rejection of independent claims 13, 21, 23 and 29 for at least the reason that there is no motivation to modify Williams to include the engine mounting configuration of McConnell. Accordingly, the Section 103 rejection of claims 13, 21, 23 and 29 should be withdrawn.

Claims 2-12 depend from base claim 13, claims 15-20 and 22 depend from base claim 21, and claims 20-24 depend from base claim 23. Claims 30-34 depend from base claim 29. Accordingly, Williams and McConnell cannot support a Section 103 rejection of dependent claims 2-12, 15-20, 23, 24-28 and 30-34 for at least the reason that these references cannot support a Section 103 rejection of the corresponding base

claims, and for the additional features of these dependent claims. Therefore, the rejection of these dependent claims should be withdrawn.

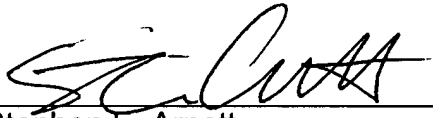
The rejection of dependent claims 19 and 26 should be withdrawn for at least one additional reason. As discussed above, these claims are directed to aircraft that include, *inter alia*, a first passenger deck extending within the fuselage and a second passenger deck positioned below the first passenger deck. Nowhere do any of the applied references of Kulfan, Williams, or McConnell teach or suggest an aircraft fuselage having first and second passenger decks. Accordingly, the rejection of dependent claims 19 and 26 should be withdrawn for this additional reason.

C. Conclusion

In view of the foregoing, the claims pending in the application comply with 35 U.S.C. § 112 and patentably define over the applied art. Therefore, a Notice of Allowance is respectfully requested. If the Examiner has any questions or believes another telephone conference would expedite prosecution of this application, the Examiner is encouraged to call the undersigned at (206) 359-6351.

Respectfully submitted,
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